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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,717	05/09/2001	Frederic Joel Harris	HA-0109	4463
7590	11/18/2004		EXAMINER	
ROBERT A. BROWN				WILLIAMS, LAWRENCE B
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				ART UNIT
				PAPER NUMBER
				2634

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/905,717	HARRIS, FREDERIC JOEL
	<b>Examiner</b>	<b>Art Unit</b>
	Lawrence B Williams	2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 09 May 2001.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-3 is/are pending in the application:  
    4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 1-3 is/are allowed.

6)  Claim(s) \_\_\_\_\_ is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) 4-5 are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 31 December 2002 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date .  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 1 .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: .

## **DETAILED ACTION**

### ***Election/Restrictions***

1. During a telephone conversation with Robert A. Brown on 03 November 2004 a provisional election was made without traverse to prosecute the invention of "a receiver for receiving and efficiently separating a composite 3-G wireless communication signal", claims 1-3. Affirmation of this election must be made by applicant in replying to this Office action. Claims 4-5 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Specification***

2. The disclosure is objected to because of the following informalities:
  - a.) Examiner suggests applicant define acronyms (UMTS and UTRA) in line 6 of page 1.
  - b.) Examiner suggests applicant insert the heading "Summary of the Invention" after line 5 of page 5.

Appropriate correction is required.

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

4. Claims 1-3 are objected to because of the following informalities: The claims are narrative in form. Examiner suggests applicant rewrite the claims in such a manner as to present a complete operative device. Note the format of the claims in the patent(s) cited.

Appropriate correction is required.

5. Claim 2 is objected to because of the following informalities:
  - a.) Claim 2 recites the limitation "the single polyphase filter" in line 4. There is insufficient antecedent basis for this limitation in the claim.
  - b.) Claim 2 recites the limitation "the post channelizer interpolator filter" in line 6. There is insufficient antecedent basis for this limitation in the claim.
  - c.) Examiner suggests applicant replace "pat" with "part" in line 9.
  - d.) Claim 3 recites the limitation "the input heterodynes" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

***Allowable Subject Matter***

6. Claims 1-3 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:  
The instant application discloses a filter and processing for demodulating a composite 3G (third generation) wireless signal. Allpress in combination with Steinbrecher teach a filtering process comprising; an equal-ripple linear phase recursive filter channelizer, and the channelizer entity performs the processing required for multiple channels in a single device" but do not teach "**an equal-ripple linear recursive interpolator**" as disclosed in claim 1.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a.) Steinbrecher discloses in US Patent 5,566,173 a Communication System.
  - b.) Allpress discloses in US Patent 5,926,455 Recursive Filters For Polyphase Structures.

c.) Kumar et al. discloses in US Patent 2003/0076899 A1 a PolyPhase Channelization System.

d.) Wilson et al. discloses in US Patent 5,657,261 Interpolation of Digital Signals Using Signal Sample Replication.

9. This application is in condition for allowance except for the following formal matters:

a.) Specification objections as noted above.

b.) Claim objections as noted above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037.

The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw  
November 4, 2004

  
AMANDA T. LE  
PRIMARY EXAMINER